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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,730

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Jin Soo Han

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EXAMINER

SINGH, DALZID E

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

06/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/673,730

Applicant(s)

HAN ET AL.

Examiner

Dalzid Singh

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1 and 2 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 recites, "A channel allocation method in a multirate optical WDM transmission system..." The claim does not recite practical result of such allocation and therefore do not meet the requirement of practical application that produces a useful, tangible and concrete result.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chraplyvy et al (US 6,580,536).

Regarding claim 1, Chraplyvy discloses a channel allocation method in a multirate optical WDM transmission system (ABSTRACT), the method comprising:

selecting a channel having the lowest transmission speed from not allotted channels (col. 3, lines 33-45 in which a channel with the lowest bit rate (lowest transmission speed) is selected for assignment);

allotting the selected channel to the longest wavelength band of empty wavelength bands (col 3, lines 33-45 in which the lowest bit rate channel is assigned outside the passband region of flat gain, e.g. assigned to the longest wavelength band of unassigned wavelengths (FIG. 3- lowest bit rate channel-308 is assigned to longest wavelength region-304)); and

Chraplyvy does not expressly disclose determining whether not allotted channels exist in order to repeatedly perform selecting the channel having the lowest transmission speed from the not allotted channels and allotting the selected channel to the longest wavelength band of the empty wavelength bands, until all the channels are allotted.

However, it would have been obvious to one of ordinary skill in the art at the time of invention to continue to allocate needed wavelength channels according to Chraplyvy's scheme, e.g. FIG. 4 continue to assign wavelength channels one by one. The motivation being that this allows traffic demand to be met by the system while at the same time improving transmission performance via Chraplyvy's channel allocation scheme (see col. 3, lines 33-45 and abstract).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chraplyvy in view of Roux et al (US 2003/0007723).

Regarding claim 2, Chraplyvy discloses the method of claim 1 as applied above. Chraplyvy does not expressly disclose wherein the bands include a short wavelength band of C-band and a long wavelength band of L-band. However, it would have been well known in the art at the time of invention that Chraplyvy's amplifier passband (e.g. Chraplyvy FIG. 4 (302-passband)) can be in the C-band (e.g C-band: 1525-1565 nm, among other well known and commonly used wavelength bands) as shown by cited reference Roux (FIG. 1, 5 in which the optical amplifier has a pass/gain band located in the C-band region); thereby, allowing the lower bit rate channels to be allocated to the longer wavelength band (e.g. L-band).

Response to Arguments

5. Applicant's arguments filed 07 March 2007 have been fully considered but they are not persuasive.

Applicant argues that Chraplyvy does not expressly disclose Applicant's claim 1 limitations of "determining whether not allotted channels exist in order to repeatedly perform selecting the channel having the lowest transmission speed from the not allotted channels and allotting the selected channel to the longest wavelength band of the empty wavelength bands, until all the channels are allotted." It would be obvious to an artisan of ordinary skill in the art to select the not allotted channels in order to

avoid cross-talk or interference. Different channels are able to be spaced closer together and hence provide greater transmission speed.

Applicant argues that applicant's claimed invention is related to a channel allocating method that considers an SRS effect in order to minimize performance degradation due to a Raman crosstalk. That is, while Chraplyvy employs allocating low-bit rate channels only to portions outside a flat-passband region due to SNR, Applicant's claimed invention does not do this. Applicant's claimed invention employs allocating low-bit rate channels to the longest wavelength among the non-allotted channels by considering the SRS effect, not SNR. Such limitation is not found in the claim. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, applicant argues that the limitations of "the allotting of the selected channel comprises allotting the selected channel to longest unused wavelength band of a short wavelength band of C-band and a long wavelength band of L-band," which are also not taught, disclosed or suggested by Roux. As discussed above, it would have been obvious to allocate channel to the unused wavelength band in order to reduce or avoid crosstalk or interference.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujita (US Patent No. 6,449,069) is cited to show optical transmission system equipment and method of transmitting optical signal.

Tomofuji et al (US Patent No. 7,088,922) is cited to show wavelength division multiplexing optical communication system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS
June 7, 2007

DALZID SINGH
PRIMARY EXAMINER

Dalzid Singh